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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,014	05/10/2001	Peter Schafer	A34196 PCT USA-A	5113

21003 7590 08/14/2003

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EXAMINER
BURCH, MELODY M

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/853,014	SCHAFER ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *30 May 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Examiner notes that Applicant has listed the Audi's Self Study Program 204 "Electronic Stability Program" reference in paragraph [0025], but has not submitted it in a separate paper. Applicant mentions in paragraph [0025] that the Audi's Self Study Program 204 "Electronic Stability Program" reference includes an exact description of the determination of an unstable condition with respect to the dynamics of vehicle movement. Since the claims recite the limitation of detecting vehicle instability based on vehicle dynamics and since Applicant's previous arguments were based on the question of whether the reference detected vehicle instability, Examiner requests a copy of the Audi reference for clarification of the vehicle instability detecting step.

Claim Objections

2. Claims 1-24 are objected to because of the following informalities:

- In line 2 of claim 1 the phrase "the operator" should be changed to --an operator--;

- In line 3 of claim 1 the phrase "booster, comprising" should be changed to --booster, said method comprising--;
- In line 2 from the bottom of claim 1 the phrase "the force" should be changed to --a force---;
- In line 1 of claim 6 "as specified in" should be changed to --according to--;
- In line 2 of claim 6 "operators'" should be changed to --operator's--;
- In line 2 of claim 8 "a vehicle" should be changed to --the vehicle--;
- In line 3 of claim 8 "engagement, comprising" should be changed to --engagement, said method comprising--;
- In line 2 from the bottom of claim 8 the phrase "of of vehicle" should be changed to --of vehicle--;
- In line 3 of claim 9 "said clamping device" should be changed to –said at least one clamping device--;
- In line 2 from the bottom of claim 12 "change braking" should be changed to --change the braking--;
- In line 2 of claim 13 "wherein said braking force change" should be change to --wherein the braking force change-- since the exact phrase "a braking force change" was not previously recited;
- Examiner recommends making a clear distinction between the "supplied control signal" in line 5 of claim 12, the "supplied signals" in line 7 of claim 12, "said control signal" in line 2 from the bottom of claim 12,

"signals representing a vehicle operator's use of at least one vehicle control" in line 2 of claim 17, "said vehicle control signals" in lines 3-4 of claim 17, and "said control signals" in line 2 from the bottom of claim 17 to avoid possible confusion. A similar issue holds true for claims 20 and 22;

- In line 2 of claims 18 and 23 "said vehicle control" should be changed to --said at least one vehicle control--;
- In line 3 from the bottom of claim 20 "an actuator" should be changed to --the actuator--;
- In the last line of claim 20 "said clamping device" should be changed to --said at least one clamping device--;
- In line 2 from the bottom of claims 17 and 22 "provide" should be changed to --provides--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 and 12-17 rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6149248 to Lubbers et al.

Re: claims 1-4. Lubbers et al. disclose a method for controlling a brake system of a vehicle wherein braking effect on the vehicle wheels is a function of brake pedal force exerted by the operator as shown in figure 5, the braking effect being enhanced by an adjustable braking force booster as shown in figure 5, the method comprising: detecting dynamics of vehicle movement or detecting vehicle deceleration by way of an accelerometer or wheel speed sensor as disclosed in col. 9 lines 51-53, analyzing the dynamics or the deceleration to detect a condition of vehicle instability, particularly, whether the deceleration rate is too low as disclosed in col. 10 lines 10-11, and increasing a force boosting effect of the braking force booster when the analysis indicates vehicle instability as disclosed in col. 10 lines 10-15.

Re: claims 5 and 17. Lubbers et al. describe the step of monitoring via measured pedal force to detect a condition wherein the operator may apply full braking and increasing the force boosting effect of the braking force booster when the monitoring indicates a condition wherein the operator may apply full braking as disclosed in col. 10 lines 33-36 and as shown in figure 5.

Re: claims 12-16. Lubbers et al. show in figures 1 and 5 a braking system for a vehicle comprising: a brake pedal 4 for operation by a vehicle operator for applying braking force, a braking force booster 10 for increasing the braking force, the booster providing a first normal braking force F pedal shown in figure 1 as a function of force applied to the brake pedal when the deceleration is not too low as inferred by the

disclosure in col. 10 lines 10-11 and in col. 10 lines 10-15 and being responsive to a supplied control signal 212 shown in figure 5 to change the normal braking force as a function of (the deceleration DECEL which is a function of) force applied to the brake pedal, and a processor 238 responsive to supplied signals DECEL representing dynamics of vehicle movement, the processor being programmed to analyze the dynamics and provide the control signal to the booster to cause the booster to change braking force when the dynamics indicate vehicle instability.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6, 7, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lubbers et al. in view of US Patent 4146108 to Sato.

Lubbers et al. teach monitoring the operator's use of a pedal, as set forth above, but do not disclose the limitation of the pedal being an accelerator.

Sato teaches the use of a braking system involving the step of monitoring the operator's use of or more specifically the abrupt release of an accelerator pedal as disclosed in lines 1-2 of the abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of controlling the brake system of Lubbers et al. to have included a step of monitoring the operator's

abrupt release of the accelerator pedal, as taught by Sato, in order to provide an alternate means of determining the operator's intentions of applying brakes.

7. Claims 8, 9, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lubbers et al. in view of US Patent 4658939 to Kircher et al.

Re: claims 8, 20, and 21. Lubbers et al. disclose a method for controlling a brake system of a vehicle wherein braking effect on the vehicle wheels is a function of brake pedal force exerted by the operator as shown in figure 5, the braking effect being enhanced by an adjustable braking force booster as shown in figure 5, the method comprising: detecting dynamics of the vehicle movement or detecting vehicle deceleration by way of an accelerometer or wheel speed sensor as disclosed in col. 9 lines 51-53, analyzing the dynamics or the deceleration to detect a condition of vehicle instability, particularly, whether the deceleration rate is too low as disclosed in col. 10 lines 10-11, and in response to the detection of vehicle instability operating the brake system to effect a braking condition, but do not specifically disclose the limitation of at least one clamping device responsive to an actuator for applying the braking force to the vehicle.

Kircher et al. teach in figure 1 the use of at least one clamping device or disc brake 1-4 responsive to an actuator M which as taught in col. 4 lines 20-23 presses the brake shoes of the disc brake from either side against a brake disc rotating on a wheel. It is maintained that such pressing action inherently overcomes free play of the clamping device or disc brake. Also, although not disclosed, it is obvious that in order for the method of controlling the braking system of Lubbers et al. to function, there must

be an associated well-known brake structure such as a disc brake or drum brake associated with the system. Despite the silence of the inventors of the Lubbers et al. reference with respect to the specific brake structure associated with the system, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake structure associated with the brake system of Lubbers et al., to have included a clamping device or disc brake responsive to an actuator, as taught by Kircher et al., in order to provide a means of realizing the braking effect of the brake system.

Re: claim 9 and 22. Lubbers et al., as modified, describe the step of monitoring via measured pedal force to detect a condition wherein the operator may apply full braking and increasing the force boosting effect of the braking force booster when the monitoring indicates a condition wherein the operator may apply full braking as disclosed in col. 10 lines 33-36 and as shown in figure 5 of Lubbers et al.

8. Claims 10, 11, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lubbers et al. in view of Kircher et al., and further in view of Sato.

Lubbers et al., as modified, teach monitoring the operator's use of a pedal, as set forth above, but do not disclose the limitation of the pedal being an accelerator.

Sato teaches the use of monitoring the operator's use of or more specifically the abrupt release of an accelerator pedal as disclosed in lines 1-2 of the abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of controlling the brake system of Lubbers et al., as modified, to have included a step of monitoring the operator's abrupt release of the

accelerator pedal, as taught by Sato, in order to provide an alternate means of determining the operator's intentions of applying brakes under unstable vehicle conditions.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5350224 to Bell et al. discusses changing over the brake booster to a mode with increased boosting factor as a function of brake pedal actuation in lines 1-6 of the abstract, US Patent 4630706 to Takayama et al. teaches in col. 1 lines 35-38 and in col. 5 lines 12-24 the use of adjusting the output force of a booster in response to various operational conditions of the vehicle. Finally, foreign reference JP-632217 teaches in the abstract the use of a brake booster having brake boosting characteristics which can be changed at least in two stages according to such variables as car speed and driving torque.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 8/6/03
mmb
August 6, 2003

8/7/2003
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310